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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/419,798	10/18/99	KAWASAKI M	1004.1063/JD

021171
STAAS & HALSEY LLP
700 11TH STREET, NW
SUITE 500
WASHINGTON DC 20001

IM52/0716

EXAMINER	
JACKSON, M	
ART UNIT	**PAPER NUMBER**
1773	7

DATE MAILED: 07/16/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/419,798	KAWASAKI ET AL.	
	Examiner	Art Unit	
	Monique R Jackson	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

1. The following guidelines illustrate the preferred layout and content for patent applications. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

The following order or arrangement is preferred in framing the specification and, except for the reference to "Microfiche Appendix" and the drawings, each of the lettered items should appear in upper case, without underlining or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) Title of the Invention.
(b) Cross-References to Related Applications.
(c) Statement Regarding Federally Sponsored Research or Development.
(d) Reference to a "Microfiche Appendix" (see 37 CFR 1.96).
(e) Background of the Invention.
    1. Field of the Invention.
    2. Description of the Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) Brief Summary of the Invention.
(g) Brief Description of the Several Views of the Drawing(s).
(h) Detailed Description of the Invention.
(i) Claim or Claims (commencing on a separate sheet).
(j) Abstract of the Disclosure (commencing on a separate sheet).
(k) Drawings.
(l) Sequence Listing (see 37 CFR 1.821-1.825).

2. The disclosure is objected to because of the following informalities:

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(1). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

The claims do not commence on a separate sheet in accordance with 37 CFR 1.52(b).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Sagawa et al (USPN 5,273,78.) Sagawa et al teach the production of a resin-bonded rare-earth magnet coated with a powder layer and resin layer wherein the magnet is formed from Fe-Nd-B powder having a particle size of 100μm or less mixed with an epoxy resin and compacted under pressure to produce a resin-bonded magnet (Abstract; Example 5.) The magnet is coated with a 1μm resin layer and a powder layer ranging in thickness from 5-10μm, wherein the resin is a thermosetting resin and the grain size of the powder material depends of the size of the work piece to be coated, the thickness of the coating, and the material of the powder, and is usually within a range from 0.05 to 500μm, and more preferably 0.1 to 50μm wherein the finer the powder material is, the smaller the striking force is and the surface roughness is lessened (12:53-68.) The resin layer is preferably applied first to bind the powder layer to the surface of the work piece however it is possible to impregnate the resin from outside the powder coating into the continuous clearances of the powder skeleton structures (7:56-8:12.) Sagawa et al teach that the powder material and resin are forced into the pores of the resin-bonded magnet, thereby effectively sealing the pores on the surface of the magnet and providing an improved corrosion resistant surface coating (10:5-23.) A protective resin coating may also be applied on the surface of the coating to enhance the strength and corrosion resistance of the entire coating and smoothen and enhance the appearance of the coating surface wherein the protective coating layer comprises the same resin as the coating layer such as a thermosetting resin and has a thickness desirably from 0.5 to 300μm (9:27-47.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sagawa et al in view of Strnat (USPN 3,998,669.) The teachings of Sagawa et al are discussed above. Sagawa et al does not specifically teach limiting the particle size of the metal alloy powder and the filler material particles to 20-300μm and 0.1-15μm, respectively, as instantly claimed ranges. However, Sagawa et al does teach ranges that encompass or overlap these ranges and further teaches that the particle size of the powder material is based on the size of the work piece, the thickness of the coating, and the material of the powder and is also a result affected variable that affects the surface properties of the resulting coated product. Further, in terms of the metal alloy powder, Strnat teaches that the particle size of the metal alloy particles used to form a rare-earth magnet body may vary based on the particular metal alloy and that typically the alloys are used in the form of powders having a particle size between 1 and 50μm and up to 100μm or more based on the particular metal alloy and desired magnetic properties (4:1-54.) Therefore, in the absence of a showing of unexpected results, it would have been obvious to one having ordinary skill in the art to utilize routine experimentation to determine the optimum particle size for the powder material as taught by Sagawa et al and optimum particle size for the metal alloy powder for the magnet body as taught by Strnat et al based on the particular powder materials utilized for the invention taught by Sagawa et al.

7. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurosawa et al (USPN 6,211,584) in view of the admitted prior art and in further view of Strnat (USPN 3,998,669.) Kurosawa et al teach a coating composition for providing an improved anticorrosion and insulation coating on a rare earth magnet or motor component wherein the body of the magnet can consist of an Nd-Fe-B system plastic magnet, a hot compression molded magnet or a sintered magnet and the coating composition comprises an epoxy resin and filler particles comprising micro carbon black and TiO_2 and/or SiO_2 as pigments having a relatively large diameter (Abstract; 2:46-50; 5:8-19.) Kurosawa et al teach that the coating composition comprising the filler particles is heated such that the composition fills the pinholes in the magnet surface and forms a uniform coating layer on the surface of the magnet wherein the solidified coating layer covering the magnet comprises 22%-40% by weight of pigment need not be too thick and wherein the coating is applied until the desired thickness is reached with examples utilizing a coating thickness of 20-25μm (2:39-47; 3:16-24; 3:54-66; Examples.) Though Kurosawa et al do not teach the actual particle size of the carbon black, TiO_2 and/or SiO_2, in the absence of a showing of unexpected results or criticality of the instantly claimed ranges, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize routine experimentation to determine the optimum particle size of these particles to incorporate into the coating composition considering the particle size is a result affected variable affecting the ability of the coating composition to fill the pinholes and affecting the smoothness of the resulting surface of the invention taught by Kurosawa et al. Kurosawa et al does not specifically teach that the Nd-Fe-B system plastic magnet or the compression molded magnet is formed from metal alloy powders having the instantly claimed particle size bonded by a thermosetting resin however it is well known in the art that rare earth magnets such as Nd-Fe-B system plastic

magnets and compression molded magnets are formed from metal alloy powders bonded by thermosetting resins as evidenced by the admitted prior art and Strnat (Background.) Further, Strnat teaches that the particle size of the metal alloy particles used to form the rare-earth magnet body may vary based on the particular metal alloy and that typically the alloys are used in the form of powders having a particle size between 1 and 50μm and up to 100μm or more based on the particular metal alloy and desired magnetic properties (4:1-54.) Hence, it would have been obvious to one having ordinary skill in the art to determine the optimum particle size of the metal alloy powder based on the desired metal alloy as taught by Strnat to utilize in the invention taught by Kurosawa et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5436 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

mrj
July 1, 2001

D. S. NAKARANI
PRIMARY EXAMINER, Acting SPE